

ATHS FC – Math Department Al Ain

Assignment 1 (Term 2)-Grade 11 Regular

Section		Date	
Name		Lesson	5-3 Polynomial Functions 5-5 Solving Polynomial Equations
ID		Marks	/5

State the degree and leading coefficient of each polynomial in one variable. If it is not a polynomial in one variable, explain why.

1. $(3x^2 + 1)(2x^2 - 9)$

2. $\frac{1}{5}a^3 - \frac{3}{5}a^2 + \frac{4}{5}a$

Find $p(-2)$ and $p(3)$ for the following function.

3. $p(x) = 3x^3 - x^2 + 2x - 5$

If $p(x) = 3x^2 - 4$ and $r(x) = 2x^2 - 5x + 1$, find each value.

4. $p(8a)$

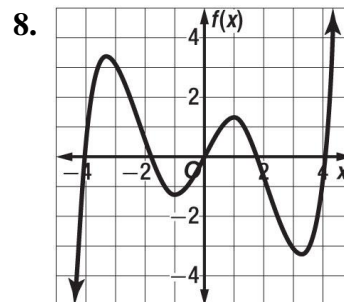
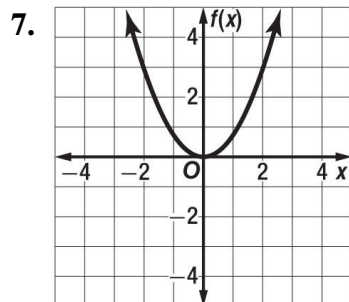
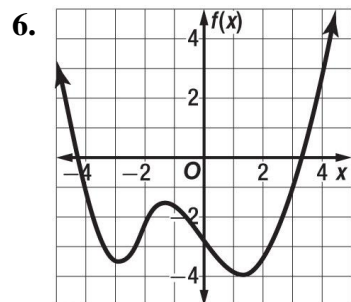
5. $r(x + 2)$

For each graph,

a. describe the end behavior,

b. determine whether it represents an odd-degree or an even-degree function, and

c. state the number of real zeroes.



Factor completely. If the polynomial is not factorable, write *prime*.

9. $14x^2y^2 + 42xy^3$

10. $6mn + 18m - n - 3$

11. $35x^3y^4 - 60x^4y$

12. $100m^8 - 9$

Write each expression in quadratic form, if possible.

13. $10b^4 + 3b^2 - 11$

14. $-5x^8 + x^2 + 6$

Solve each equation.

15. $k^5 + 4k^4 - 32k^3 = 0$

16. $m^4 - 625 = 0$

- 17. PHYSICS** A proton in a magnetic field follows a path on a coordinate grid modeled by the function $f(x) = x^4 - 2x^2 - 15$. What are the x -coordinates of the points on the grid where the proton crosses the x -axis?